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REPORT

OF THE

BOARD OF MANAGERS

OF THE

LEHIGH COAL AND NAVIGATION COMPANY,

TO THE

STOCKHOLDERS.

MAY 5, 1863.

PHILADELPHIA:
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STOCKHOLDERS' MEETING.

MAY 5, 1863.

At the Stated Annual Meeting of the Stockholders of The Lehigh Coal and Navigation Company, held May 5th, 1863,—

The Annual Report of the Board of Managers, together with the Treasurer's statements for the year 1862, was received and read, and being approved, was ordered to be published in the usual form.

The committee appointed on the 6th of May, 1862, to consider "the subject of the conversion of the distributed scrip shares into stock," submitted a Report which was read as follows:

REPORT AND RESOLUTIONS.

To the Stockholders of the Lehigh Coal and Navigation Co.:

Your Committee, appointed by resolution of the Stockholders at their Annual Meeting, held 6th of May, 1862, to consider the subject of the conversion of the distributed scrip shares of the Company into stock,

REPORT,

That at an early day after their appointment, in concert with two professional gentlemen as their counsel, they entered upon the consideration of the subject committed to them, with a pamphlet copy before them, of the Report for the year 1861, as presented and read to the Stockholders at the Annual Meeting, signed "by order of the Board of Managers," by James Cox, President. In this Report, after discussing some collateral points, and stating opinions of "eminent counsel," adverse to certain rights previously claimed in behalf of the Scripholders, the Board of Managers, on pages 17, 18 and 19 of their said Report, in reference to the conversion of distributed scrip shares into stock, say:

"But waiving the further discussion of the subject in its legal aspects and as a question of abstract and absolute right, and looking at it merely as a question of expediency, the Board of Managers readily and freely admit the desirableness, for many and obvious reasons, of the conversion of the scrip into stock at the earliest day practicable, consistently with a due regard for the interests of the Stockholders and the security of the Loanholders; and provided it can be done without violation of the Deed of Trust.

"This, it has been suggested, can be effected, and the legal obstacles in the way of the desired conversion surmounted, by the negotiation of a new loan, to be secured by a Mortgage upon the Company's Real Estate, and made redeemable at a period beyond that for which the Deed of Trust of March 7th, 1842, was given; the subscriptions to said loan to be payable in the certificates, at par, of the present funded debt of the Company; the proposed new loan to be for an amount sufficient to absorb *the whole* of the said funded debt; with a proviso, should any of the holders of the said funded debt decline or neglect to avail themselves of the offer of the Company to receive it in payment of the subscriptions to the proposed new loan, then to take *cash* subscriptions to said new loan sufficient to constitute a fund equal in amount to that of the outstanding loans; said fund to be so held as to be, at all times, available for the immediate payment of the said outstanding debt whenever payment is demanded.

"The belief has, in some quarters, been very confidently expressed, that a loan of the character and for the amount contemplated, for a period of, say twenty years, with interest payable quarterly, and the payment of both principal and interest secured, as the Company are able to secure it, will present inducements to the holders of the present funded debt to invest their certificates in it, such as they will be glad to avail themselves of.

"An extension of the present loans to the Company in the mode proposed, would be virtually, as regards the Deed of Trust, a payment of them; and that instrument would thereupon 'cease, determine and become void;' and the Company would, as a consequence, be relieved from the restraints to which they are now subject, and the Board of Managers would thereafter be at liberty, without further delay, to comply with the wishes of the holders of the scrip for its conversion into stock.

"A resolution, intended to give effect to these views, has been prepared, and will be submitted to the Stockholders. If approved by them, it will be the duty of the incoming Board of Managers to adopt the necessary measures to carry out, without unnecessary delay, the recommendation of the Stockholders—a duty which will, no doubt, be cheerfully discharged."

The Resolution referred to, as adopted by the Board of Managers, was submitted to the Stockholders for their approval or disapproval—the consideration and discussion of which resulted, by way of amendment of the original, in the adoption of a substitute under which your Committee was appointed, and has since acted, in relation to the subject matter.

When your Committee entered upon the consideration of the subject, doubts were entertained whether the present Loanholders generally, or even a majority of them, in amount, would consent to surrender their certificates of loan, secured by the Mortgage of 7th March, 1842, in exchange for certificates of like amounts of a new loan, as proposed to be secured by a Mortgage of the Company's Real Estate only; and upon the occurrence of the disaster to the Company's works by the extraordinary flood of 4th of June last, they deemed it prudent to suspend, for the time, the further consideration of the subject, and await future events of a character more propitious.

But since then, and recently, there has been procured, in behalf of the Company, an Act of our Legislature, entitled "An Act to authorize the Lehigh Coal and Navigation Company to extend their Railroad from White Haven to Mauch Chunk," approved the 4th of March last, the provisions of which were formally accepted by the unanimous votes of the Stockholders present at a meeting on the 16th of the same month, called for that purpose; and a certificate of such acceptance, under the Corporate Seal of the Company, attested by their President and Secretary, was thereupon forthwith transmitted to, and deposited in the office of the Secretary of the Commonwealth, as was required for the giving to the said Act legal effect and operation.

Section 4 of this Act authorizes the Company, *for the general purposes of their business*, and the construction of the improvements thereby authorized to be made, and for repairing their works, to borrow from time to time such sums of money as they shall deem expedient, not exceeding in the whole three millions of dollars, and to mortgage their Canal, Slack Water Navigation, Railroads, Property, and Franchises, or any part thereof, as a security therefor.

The authority thus conferred upon the Company, in the opinion of your Committee, opens a plain path, free from the embarrassments and difficulties which have been regarded heretofore in the way of the early conversion of the distributed scrip shares of the Company into Stock, the "desirableness" of which "for many and obvious reasons," it is believed the Stockholders generally do and will as "readily and freely admit" as the Board of Managers have done.

In the present favorable state of financial matters, your Committee apprehend, and can scarcely doubt, that the holders of the funded debt of the Company, in the aggregate less than $2,800,000, will, almost without exception, gladly and promptly avail themselves of the privilege and opportunity, if tendered to them, of subscribing their respective amounts thereof to a new Loan, as now authorized, having a longer time to run to maturity, and of paying the same by the surrender and cancellation of their certificates of the old, in exchange for those of the new Loan, if the latter shall be secured by a new Mortgage of the Company's Canal, Slack Water Navigation, Railroads, Property, and Franchises.

It is quite reasonable to believe that all the holders of the present Loan will come in upon the security of the proposed new Mortgage, because, by so doing, with the same security they now have, they will obtain investments to extend beyond all the present and prospective financial and pecuniary troubles of the country. Nevertheless, it is possible there may be some who will decline or neglect to change their Certificates, and come upon the security of the new Mortgage. If such shall be the case, then Bonds or Certificates of the new Loan can be disposed of at market rates, to an ample amount, and the *cash* proceeds thereof constitute a fund for investment in lawful securities, as a provision for the payment of the refusing or neglecting holders, under the Mortgage of 1842, their respective amounts when due and demanded. This being done, the purpose of the special stipulations, in that Mortgage, would be substantially and equitably accomplished and satisfied; and it would then be the duty of the Board of Managers to direct and cause Certificates of Stock to be issued, in lieu of and in exchange for the Certificates of distributed scrip shares to the holders thereof.

The conversion, it is believed, when and if thus accomplished, will be, "in its operation and effects, just and equitable to the rights and interests of all classes without violating or infringing upon the rights of any."

Your Committee annex to their Report such Resolutions as they deem suitable to give effect to the purposes therein expressed.

THOMAS WILLIAMSON,
JOHN A. BROWN,
WASHINGTON BROWN.

Philadelphia, May 1, 1863.

1. *Resolved,* That the Board of Managers of The Lehigh Coal and Navigation Company be requested to execute to three Trustees, a Mortgage for Three Millions of Dollars, on the Company's Canal, Slack Water Navigation, Railroads, Property and Franchises, for the purpose of securing that amount of Bonds or Certificates of Loan to be issued by the Company, for the purpose of constructing the Improvements authorized to be made by an Act of Assembly, approved the 4th day of March, 1863, entitled "An Act to authorize the Lehigh Coal and Navigation Company to extend their Railroad from White Haven to Mauch Chunk;" and for the purpose of repairing their Works, and for the general purposes of the business of said Company.

2. *Resolved,* That the Board of Managers of The Lehigh Coal and Navigation Company be requested to issue Bonds or Certificates of Loan to such amount as they shall deem needful or expedient, not exceeding in the whole Three Millions of Dollars, bearing interest at the rate of Six per cent. per annum, payable quarterly, and the principal payable at a future period, not less than Fifteen, nor more than Twenty years distant from the 1st day of April now last past; and with the proceeds of said Bonds and other available means of the Company, proceed to do and execute the constructions, works and repairs authorized and *required* to be made by the Act of Assembly aforesaid; and also, to redeem all the Bonds or Certificates of Indebtedness of the Company secured by their Mortgage of 7th March, 1842, by offering the new Bonds or Certificates in exchange for, and cancellation of those secured by the said existing Mortgage.

3. *Resolved,* That if, at the expiration of Ninety days after notice to the holders of the existing Certificates of Funded Debt, that the Company are willing and ready to receive them and give in exchange therefor new Certificates as aforesaid, (which notice the Board of Managers is requested to cause to be given by advertisements in, at least, three of the daily newspapers of the City of Philadelphia,) there shall remain any Certificates of the present Funded Debt of the Company outstanding in the hands of persons who refuse or neglect so

to exchange them; then the Board of Managers is requested to appoint *Two Trustees*, to whom a sufficient amount of good money securities of the Company shall be assigned amply to secure all the holders of Certificates secured by the Mortgage of 1842 remaining unpaid or unsatisfied as aforesaid, when their Certificates shall become payable; which securities, so to be held, shall not be assigned nor assignable without the direction of the Company, manifested by a certified resolution of the Board of Managers.

4. *Resolved*, That upon the payment and satisfaction of said Mortgage of 7th March, 1842, if fully paid; or upon the partial payment thereof, and providing in manner as aforesaid, ample security for so much thereof as shall remain unpaid, the Board of Managers is requested to issue full Certificates of Stock in the Capital of the Company to the holders of the Scrip Certificates heretofore issued, according to the number of Shares in the latter certificates specified: *Provided*, That in case of such partial payment and provision of security, such Certificates of Stock to the holders of the Scrip Certificates aforesaid, shall not be issued until a decree of the Supreme Court, sanctioning such issue, shall have been obtained.

Following the reading of the foregoing report and resolutions, Samuel Elkin, one of the minority of the committee, spoke in substance as follows, viz:

"Mr. Elkin expressed, as one of the minority of the committee, his regret that owing to the death in the family of Mr. Henry Cope, the senior member of the minority of the committee, he had been deprived of his assistance and counsel. Mr. Elkin assured the Stockholders that Mr. Cope coincided with him in considering the time for conversion, so soon after the late disastrous freshet to the works, inopportune. Referring to the high position this Company had ever held, and its present high credit, after so serious a loss, and its ability to speedily recover, if not involved by the conversion of $1,800,000 of scrip shares into stock, Mr. Elkin thought it most wise to pause, until the Company shall have arranged, either with connecting roads, or have themselves constructed a rail road, as contemplated, when the increasing prosperity of the Company may justify, probably at no very distant day, the proposition so earnestly urged."

After some discussion, the member of the minority of the committee, who had just spoken, inquired whether the Board of Managers had not obtained a legal opinion bearing upon the subject under debate; whereupon the President of the Company handed to the Chairman of the meeting, the opinion, in writing, of the Hon. William M. Meredith, received only last evening, under circumstances which he explained to the meeting. The reading of the opinion was, however, objected to, and on a division upon the question, the paper was ordered to be laid on the table.

The following resolution, moved by Lewis Elkin, and seconded by John A. Brown, was then adopted by a vote, viva voce, viz:

Resolved, That the Stockholders of the Lehigh Coal and Navigation Company meet at this place, Board of Trade Rooms, Chestnut street above Fifth, this day week, viz: on Tuesday, May 12th, between the hours of 10 A. M. and 2 P. M., for the purpose of taking a stock vote on the adoption or rejection of the resolutions presented by the majority of the Scrip Committee this day, and that the Board of Managers be requested to publish the Report of the Committee, with the accompanying resolutions.

The Chairman thereupon announced that the judges, who had been qualified to conduct the election to be held after the close of this meeting, for officers of the Company for the ensuing year, would act as tellers of the stock vote to be taken next Tuesday, and would report to the Board of Managers.

The meeting then adjourned.

CALEB COPE,
Chairman.

EDWIN WALTER,
Secretary.

At an election held May 5th, 1863, the following named persons were chosen officers of The Lehigh Coal and Navigation Company, for the ensuing year:—

President.

JAMES S. COX.

Managers.

ERSKINE HAZARD,
JOHN FARNUM,
RICHARD RICHARDSON,
ALEXANDER FULLERTON,
ANDREW MANDERSON,
JACOB P. JONES,
FRANCIS C. YARNALL,
SAMUEL E. STOKES,
FRANCIS R. COPE,
JOSEPH FISHER.

Treasurer.

EDWIN WALTER.

EDWIN WALTER,
Secretary.

At a meeting of the Board of Managers of The Lehigh Coal and Navigation Company, held May 13, 1863, the following Report was received and read, viz:

The undersigned, Tellers, appointed to receive the votes of the Stockholders of The Lehigh Coal and Navigation Company, upon the resolutions of the Scrip Committee, report that fifteen thousand six hundred and sixty-five votes were given in favour of the resolutions, and twelve thousand five hundred and one votes against them; the majority in favour of the resolutions being three thousand one hundred and sixty-four.

Philadelphia, May 12, 1863.

GEO. W. STEEVER,
CHAS. H. ABBOTT,
JOS. B. VAN DUSEN,
Tellers.

To the Managers of The Lehigh Coal and Navigation Co.

From the minutes of the Board of Managers,

EDWIN WALTER,
Secretary.

REPORT

Of the Board of Managers of The Lehigh Coal and Navigation Company, to the Stockholders' Meeting, held May 5, 1863.

In reviewing the past year, forever memorable in the history of this Company as that of the most destructive flood ever experienced upon the line of their works, the stockholders are not left without comforting considerations. The damage inflicted was mostly upon the least valuable part of the Company's improvements, the Upper Section of the Navigation, a considerable portion of which ought never to have been built, was built only upon legislative compulsion, and need not be *re*built; was never a source of profit to the Company, but always a source of danger; its stupendous locks and dams having been among the chief causes of the ruin which so suddenly overwhelmed the valley of the Lehigh on the 4th of June last. The disaster, too, was one which could not have been prevented. It was not caused by neglect or want of attention on the part of any one. It was an act of the Omnipotent. To the Managers at least, it is a relief to feel that no censure can rest upon the administration or the officers of the Company in relation to the calamity.

There is satisfaction also to be derived from the fact that owing to the prudent management of the Company in past years, it has been able to sustain a blow so tremendous, with so little damage to its inherent soundness and prosperity. The flood of 1841 left the Company a wreck. The greater flood of 1862 leaves it strong and vigorous, with full ability to do every thing that may be required for the protection of its interests, and with the prospect of abundant profits in the future.

On the 15th of March of last year, the winter repairs to the Navigation were completed, and the water let into the Canal. The Lower Section was opened for business on the 20th of the month, and the first shipment from Mauch Chunk made on the 24th. From some of the pools on the Upper Section, the ice did not give way until the 8th of April. The Lehigh and Susquehanna Rail Road was opened so soon as boats could pass up to White Haven.

The season began with very discouraging prospects, owing to the extremely low rates at which certain Companies, actuated by an intense rivalry of each other, offered to do business; a movement which all others had more or less to follow; but things were rapidly improving when the eventful night of the 4th of June supervened with its attendant floods, changing the whole aspect of affairs throughout the coal regions, some of the transporting lines being left crippled and mutilated, whilst others which had escaped serious injury, being relieved from the pressure of competition, had the field to themselves, and were suddenly lifted into a condition of corresponding prosperity.

No Company suffered so severely as ours. In 1850, it was in the valley of the Schuylkill that the waters were most destructive. In 1862, it was in the valley of the Lehigh. The very full report of the Company's Engineer will show you some of the work of that fearful night of June 4th, and how a few hours sufficed to destroy structures which a million of dollars could not replace. In the flood of 1841, the water rose seventeen feet above the comb of the Mauch Chunk Dam. In the flood of 1862, it rose twenty-seven feet above that same dam. The damage done was proportionately great.

As soon as the water had subsided sufficiently to allow of even a cursory survey of the condition in which the navigation had been left, it was apparent that the first thing to be done was to restore the navigation from Easton to Mauch Chunk, where coal could be received, not only from the Company's own mines, and from those of the Beaver Meadow basin of which the usual shipping place had been East Mauch Chunk, but also from all the mines in the Hazleton and Black Creek basins, the products of which had heretofore been shipped at Penn Haven, but could now be brought down to Mauch Chunk over the Beaver Meadow Rail Road.

The Board, therefore, at once determined to begin the work of repairs by concentrating all their efforts upon the Lower Section, which, it was estimated, could be reopened in four months, or in time to allow two months of active business upon it before the close of the season.

The policy adopted by the Board was ably and zealously carried into effect by the Company's Superintendent and Engineer. To his intelligent and capable management, and to the hearty co-operation of his various assistants, the Company are indebted for the reopening of the navigation to Mauch Chunk within the original estimate of time. Many difficulties had to be encountered, the principal of which was the scarcity of labor, resulting partly from enlistments in the army, and partly from the great demand which arose for the repairs of other lines of improvement besides our own.

Wages advanced from 90 cents to $1.25 a day, and it was with great difficulty that a sufficient force could be collected and kept up, even with that inducement. The work was, however, sufficiently advanced, to allow of the water being let in all the way to Mauch Chunk by the 29th of September. It had been let in from Easton to Allentown on the 26th of July, and from there to Hokendauqua on the 20th of August.

Regular shipments of coal from the Company's mines, and from the chutes at East Mauch Chunk, commenced on the 3d of October. From that time until the close of navigation, by ice, on the 19th of December, no interruptions occurred, and there were carried on the canal 164,228 tons of coal, which, added to 231,999 tons, shipped before the flood, makes a total for the year of 396,227 tons, derived from the following sources of supply:

	TONS.	TONS.
Shipped at Mauch Chunk—		
From the Company's Summit and Panther Creek Mines, - - -	185,061	
,, Room Run Mines, - - -	20,953	
,, East Lehigh ,, - - -	13,778	
		219,792
Shipped at East Mauch Chunk and Penn Haven—		
From the Spring Mountain Mines, -	9,481	
,, Colerain, - - - -	5,403	
,, New York and Lehigh, - -	3,640	
,, German Pennsylvania, - -	16,308	
,, North Spring Mountain, - -	14,902	
,, Hazleton Mines, - - -	46,487	
,, East Sugar Loaf, - - -	60	
,, Mount Pleasant, - - -	495	
,, Council Ridge, - - -	6,182	
,, Jeddo, - - - - -	11,099	
,, Harleigh, - - - -	4,158	
,, Fulton, - - - - -	6,796	
,, Milnesville, - - - -	2,456	
Pea and Dust Coal, - - - -	1,947	
		129,414

Shipped at Rockport—		
From the Buck Mountain Mines, - - - -		20,298
Shipped at White Haven—		
From the Franklin Coal Co's Mines, -	12,328	
,, Audenried, - - - -	6,542	
,, Hartford, - - - -	1,266	
,, Philadelphia, - - - -	2,724	
,, Baltimore, - - - -	3,863	
		26,723
Total shipments on the Company's navigation in 1862,		396,227

The product of the Company's mines for the year was as follows:

Mined on Company's Account.

		Tons.
From the Panther Creek and Summit Mines, - - - - - -		189,458,11

Mined under Leases from the Company.

From the East Lehigh Mine, - -		13,861,13
From the Room Run Mines,		
shipped by Canal, - -	20,952,18	
by Lehigh Valley R. R. -	8,049,13	
		29,002 11
From the Tamaqua Mine, shipped by Little Schuylkill Rail Road, - - -		9,393,01
Total, - - - -		241,715,16

The distribution of the coal carried on the canal was as follows:

	Tons.
Consumed on the line of the Lehigh Canal,	72,594
Passed into the Morris Canal at Easton,	106,431
Went into the Delaware Division Canal,	217,202

Of the coal that entered the Delaware Division Canal, 106,392 tons reached Bristol; 97,410 tons passed, via the outlet Lock at Wells' Falls, into the navigable feeder of the Delaware and Raritan Canal;

leaving 13,400 tons as the quantity disposed of on the line of the Delaware Division Canal.

The quantity of lumber carried on the navigation for the year, was only 15,156,600 feet. All communication with the lumber region on the Upper Lehigh was cut off by the flood, and remains so still.

Freight for the year 1862, of all descriptions, carried on the Company's Canal, amounted to:

Descending, - - -	443,232,07	tons.
Ascending, - - -	108,586,10	„
Total, - -	551,818,17	„

The following is a statement of the various commodities carried on the Company's Canal during the past year.

Freight Transported on the Lehigh Canal in 1862.

	ASCENDING.		DESCENDING.		TOTAL.	
	Tons.	Cwt.	Tons.	Cwt.	Tons.	Cwt.
Mineral Coal, - - - -	1,497	04	396,407	02	397,904	06
Charcoal, - - -		12				12
Grain, - - - - -	845	02	546		1,391	02
Flour, - - - - -	332	12	140	03	472	15
Salt, - - - - -	803	15			803	15
Salt Fish and Pork, - -	97	02	1		98	02
Other Provisions, - -	51	08	5	01	56	09
Beer, Porter and Cider, -	133	05	4	05	137	10
Whiskey, - - -	28	19	335	03	364	02
Hay and Straw, - -	320	18	1		321	18
Staves and Hoop-poles, -	1	06		09	1	15
Lumber, - - - - -	2,200	13	12,955	19	15,156	12
Cordwood, - - -	382	06	10	10	392	16
Brick, - - - - -	761	13	226	16	988	09
Slate, - - - - -			1,101	04	1,101	04
Lime and Limestone, -	8,492	02	1,704	15	10,196	17
Other Stone, Plaster and Sand,	6,686	19	1,454	11	8,141	10
Iron, - - - - -	1,927	19	26,346	14	28,274	13
Iron Ore, - - -	83,058	19	571	08	83,630	07
Pitch, Tar and Rosin, -	10	14	1		11	14
Merchandise, - - -	953	02	1,419	07	2,372	09
	108,586	10	443,232	07	551,818	17

The profits on the current business for the year were, from ground and water rents, and from sales of real estate, $26,159.12; from coal, $89,111.63; from tolls, $165,457.19; and from sale of State Loans and other securities, $26,619.51, amounting to a total of $307,347.45.

After paying State Tax, Interest, and ordinary expenses, the net earnings for the year were $183,860.33, being equal to an interest of over seven per cent. upon the Capital Stock.

The usual semi-annual dividends of three per cent. each were declared in May and November.

At the close of the year 1862 the Contingent Fund stood thus:

Pennsylvania State Fives, - - -	$471,000 00
N. Pennsylvania R. R. 1st Mortgage Bonds, - - - - - - -	51,000 00
N. Pennsylvania R. R. Scrip Bonds, -	8,490 00
Nanticoke R. R. 1st Mortgage Bonds,	47,000 00
Lehigh Crane Iron Company's Bonds,	300,000 00
Amount at par,	$877,490 00

At the present time (May 2d, 1863), it stands as follows:

Pennsylvania State Fives, - - -	$312,000 00
N. Pennsylvania R. R. Scrip, - -	8,490 00
Nanticoke R. R. 1st Mortgage Bonds, -	47,000 00
Lehigh Crane Iron Company's Bonds, -	300,000 00
Amount at par,	$667,490 00

There was no change during the year in the Capital Stock or Funded Debt of the Company.

During the same period, the floating debt of the Company was increased $372,572.48, including which the general indebtedness of the Company was increased $375,779.31.

At the end of the year 1862, the liabilities of the Company, including Capital Stock, Funded Debt, and pecuniary obligations of every kind, were $6,057,640.28, being $375,779.31 more than they were at the close of the year 1861.

The financial condition of the Company at the close of the year 1862 is clearly exhibited in the Treasurer's accounts, herewith submitted.

The cost of the repairs, ordinary and extraordinary, and of the improvements to the navigation, amounted at the end of the year to the sum of $566,381.56, all charged to Profit and Loss. Of this amount, $28,909.12 was spent upon the Upper Section, chiefly towards reopening the navigation to the first pool above Mauch Chunk, upon which the shipments of coal from the Company's Room Run Mines are made. The balance was expended upon the Lower Section, with the exception of a trifling sum upon the descending navigation above White Haven. The extraordinary repairs and improvements to the Lower Section, occasioned by the flood, cost the sum of $514,754.45. The particulars of these expenditures are given in the Engineer's report, together with a very full account of the damage sustained by the works from White Haven to Easton, and of the difficulties encountered in restoring them up to Mauch Chunk within the period of time originally fixed. The repairs and renewals have been thoroughly made; the new work is in every instance better than the old; important improvements have been made, in lengthening some of the dams, changing the location in whole or in part of several of the more exposed levels, and giving increased strength wherever it was found to be wanted. The entire line from Mauch Chunk to Easton is now in a condition superior to that of any previous period, and, unless the high dams above Mauch Chunk should be generally restored, is believed to be entirely safe from any repetition of such calamities as that of last year.

A very important subject of consideration with your Managers has been the question—what should be done in regard to the Upper Section of the navigation?—Whilst the repairs were being strenuously urged upon the Lower Section, claiming the labor of every man that could be hired, reconnoisances and instrumental surveys were made along the line of the Upper Section, with regard to a restoration of it, or to the substitution of a rail road in its stead. The damage done here was greater than below Mauch Chunk. A careful estimate, made under the direction of the Company's Engineer, from actual measurements, shows that the cost of restoring the Upper Section to its condition before the flood would be about $900,000. It would not suffice, however, merely to restore the works as they were. It would be indispensable to make them better and stronger. The expense of doing this would be so great, especially in reference to any benefit to be derived from the outlay, that public sentiment from the beginning decided almost unanimously that from White Haven down to Rockport or Penn Haven, it ought never to be done. In regard to that portion of the line between Penn Haven and Mauch Chunk, there has been a greater diversity of opinion, with a growing preponderance, however, in favor of the abandonment of the greater part of that also.

Under the charter of the Company, as it stood, there would have been no alternative but to rebuild everything. The Board of Managers, therefore, immediately on the assembling of the Legislature, addressed themselves to the task of procuring legislative authority to abandon the whole or any part of the Upper Section, and to construct a rail road for the whole or any part of the distance between White Haven and Mauch Chunk. An act granting this authority was signed by the Governor on the 4th of March, and submitted to your votes on the 16th of the same month, at a special meeting called for that purpose. It was unanimously accepted. By its provisions, the Company have one year within which to determine what parts of the Upper Section, if any, they will place, and keep, in repair. They are to signify such their determination to the Secretary of the Commonwealth, and are relieved from any obligation to repair any other parts. The present Board have come to no other determination on the subject than that the navigation should be restored at least to a point about 1½ miles above Mauch Chunk, where an excellent location offers on the east side of the river for the construction of a large basin for the transhipment of coal from cars into boats. The want of proper facilities for such transhipment is very much felt at this time, and will be felt much more hereafter, when coal from the Buck Mountain and Wyoming Mines shall again have access to the canal, and when a connection shall have been made with the Mahanoy coal region, all of which conditions will probably be fulfilled before the close of the present year, by the completion of the Lehigh and Mahanoy, and the Penn Haven and White Haven Rail Roads, and of a branch from the Hazleton Rail Road to the Buck Mountain Mines. Coal from all of these roads, as well as from the

Hazleton, Black Creek and Beaver Meadow regions, will have access to the proposed basin over the Beaver Meadow Rail Road and a short branch from the Turn Hole, which will be required to keep the cars at a proper elevation. Contracts have been entered into for the construction of both the basin and the branch road, and it is hoped that sufficient progress will have been made with the work to enable shipments at that point to begin in the month of July next. It is intended to lay the work out on a sufficiently large scale to admit of the shipment at this point of a million of tons per annum, the shipping fixtures to be built only as the growth of the business may require.

In addition to such parts of the Upper Section as it may be decided to restore for navigation purposes, there are other parts which it may be important to maintain as auxiliaries to the navigation or for local uses and convenience. Thus, some of the dams immediately below White Haven, which received but trifling injuries from the flood, have since been repaired, and may hereafter be kept up with great advantage as creating valuable water-powers, and reservoirs from which the Navigation lower down may be fed during periods of low water.

Under the authority of the Act of March 4th, 1863, already referred to, surveys have been made, and the location secured, for a rail road all the way from the present terminus of the Lehigh and Susquehanna Rail Road to a connection with the Lehigh Valley Rail Road, near the bridge across the Lehigh, below Mauch Chunk.

Whether the construction of this road should be undertaken at this time must depend in a great degree upon the arrangements that can be made with other

Companies, whose works will intervene between the restored navigation and the Lehigh and Susquehanna Rail Road and other avenues of trade.

Should it be found impracticable to make satisfactory arrangements with these intervening Companies, it may then become necessary to act independently of them, and to extend the Lehigh and Susquehanna Rail Road down the valley to the head of navigation. This extension, it has been estimated, will cost about $350,000 from White Haven to Penn Haven, and about $200,000 from there to the new basin above Mauch Chunk, if that point should be made the head of navigation. If carried down to a connection with the Lehigh Valley Rail Road below Mauch Chunk, the length of road to be built will be about twenty-five miles, and the cost for a single track without equipment not less than $650,000. It is proper to add that since these estimates have been made, both labor and materials have advanced considerably.

The transportation of coal over the Lehigh and Susquehanna Rail Road was brought to an abrupt termination by the occurrence of the flood. A considerable increase of business over the road had been looked for from the completion of a portion of the Nanticoke Rail Road, which was in condition by the beginning of May to carry coal from the mines of the Baltimore Coal Company and other intermediate operations to the foot of the planes. Extensive arrangements had been made for the sale and delivery *via* the Lehigh Navigation, of large quantities of coal from those mines. The total amount advanced to the Nanticoke Rail Road Company up to this time, under our contract with them, is $47,000, for which we hold their bonds secured by a first mortgage. The completion of the road has been delayed by the isolation to which it is subjected. As soon as a connection with the Lehigh is re-opened, its construction will no doubt be rapidly pushed on.

Another road in which the Board of Managers have felt a great interest, the Nesquehoning Valley Rail Road, acknowledged by all to be the best connection that can be made between the Mahanoy region and the Valley of the Lehigh, bringing the mines of that region from sixty to seventy miles nearer to New York than by the way of the Schuylkill, has made but little progress during the past year, owing to the want of concert of action between those interested in its completion. The delay in its construction is a serious loss to the transportation lines leading from the Lehigh, as well as to the operators in the Mahanoy region. Besides affording the best outlet from that region, it is believed that by means of a tunnel under the Nesquehoning Mountain, it would also afford the best outlet from the mines of this Company.

The present season has opened with encouraging prospects for all parties engaged in the coal trade. Both producers and transporters, the former particularly, are realizing good prices. The canal below Mauch Chunk is in excellent order, and the Company's mines are in condition, with a full supply of labor, to turn out over half a million of tons of coal of the best quality. Owing, however, to the scarcity of labor, and to the high wages paid which, unfortunately, lead men into the indulgence of idleness and disorder, it is not expected that this amount will be reached.

The transportation of coal on the canal, it is feared, may be limited in the early part of the season by the want of sufficient accommodations for shippers, the chutes at East Mauch Chunk being the only ones available at this time for all the trade from the Upper Lehigh, which has heretofore had the use of the very extensive fixtures erected at Penn Haven by the Hazleton Coal Company, and by other parties at points above. Every effort is making to use the present accommodations to the best advantage, and after July it is hoped the new basin above Mauch Chunk will supply all that will be wanted. After that the supply of boats will probably be the only limit to the Company's business. In any event, the Board of Managers anticipate a prosperous year, the profits of which they trust will go far towards reimbursing the extraordinary expenditures of 1862, occasioned by the flood.

On the 30th of last December, James Cox, then President of the Company, departed this life, after a short but painful illness of but little over three days' duration. Elected to the Presidency in 1844, he had filled the office for nearly nineteen consecutive years with unfaltering devotion to the interests of the Company. Gifted by nature with a strong will and a vigorous mind, which he had carefully improved by cultivation and discipline, he added to these great industry and application, with a fidelity and integrity which no one ever questioned. To his firm, careful, and systematic administration of the affairs committed to his charge, the Company are indebted for much of their success in past years.

The Board of Managers, on whom it devolved to fill temporarily the vacancy occasioned by his death, appointed the present incumbent to hold the office until the next annual election by the Stockholders.

By order of the Board of Managers.

JAMES S. COX,

May 2d, 1863. *President.*

Profit and Loss Account of The Lehigh Coal and Navigation Company, for the Year 1862.

To amount of dividend declared May 27, 1862; 3 per cent.	$74,398 50	By balance to credit of Profit and Loss, Jan. 1, 1862, -	$3,724,838 14
Do. do. Nov. 25, do.	74,398 50		
	148,797 00		
To *cost of repairs* and improvements of the Navigation in the year 1862, ordinary and extraordinary, - -	566,381 56		
To *deficiency in* transportation account of Lehigh and Susquehanna Rail Road, owing to suspension of business caused by the *great freshet of June 4th*, 1862, -	7,761 45		
To *deficiency in* Mauch Chunk supply account, caused by supplies (chiefly lumber) lost by *freshet*, - -	9,648 77		
	732,588 78		
To balance carried down, - - - - - - -	2,992,249 36		
	$3,724,838 14		$3,724,838 14
		By balance brought down, being remainder after *dividends* and *cost of repairs of Navigation* in 1862, -	2,992,249 36

Summary of the Ordinary Expenses and the Earnings of the Year 1862.

State Tax for 1862, on Capital Stock, - - - -	$7,439 85	Water and ground rents, and gain by sales of real estate, - - - -	$26,159 12	
Balance of Interest account for the year 1862, - -	116,047 27	Profit on coal sold, including mine rents,	89,111 63	
Amount carried down, and deducted from earnings,	$123,487 12	Tolls on Navigation, less collection expenses, - - - - - - -	165,457 19	
		Profit realized on State Loans and other securities sold, - - - - -	26,619 51	
			307,347 45	
		Amount brought down, - - -	123,487 12	
		Amount of nett earnings for the year 1862, - - -		183,860 33
		Balance to credit of Profit and Loss, Jan. 1, 1863, -		$3,176,109 69

Comparative Indebtedness of The Lehigh Coal and Navigation Company, January 1, 1862, *and January* 1, 1863.

	Jan. 1, 1862.	Jan. 1, 1863.	Increase.	Decrease.
Six per ct. Mortgage Loan, due March, 1, 1870,* being the Total amount of *Funded Debt,*	2,788,181 92	2,788,181 92	None.	None.
Floating Debt, - - -	352,608 33	725,180 81	372,572 48	
Interest unpaid, - - -	54,096 02	55,696 35	1,600 33	
Dividends unpaid, - -	7,024 70	8,631 20	1,606 50	
	3,201,910 97	3,577,690 28		

Increase of Floating Debt, &c., in 1862, $375,779 31

CAPITAL STOCK.

The amount of Capital Stock issued is unchanged, being 49,599 shares, of $50 each, equal to - - - - $2,479,950

" *Scrip for additional Shares of Stock.*"

There have been issued, as recommended by resolution passed at the meeting of the Stockholders held 1st May, 1855, certificates of "scrip shares," as follows, viz.

1855,	certificates for	9,905	"scrip shares,"	which, when converted into stock, will amount to	$495,250
1856,	do.	11,882	do.	do.	594,100
1857,	do.	14,273	do.	do.	713,650

Making a total of 36,060 "scrip shares," which, when converted as aforesaid, will add to capital stock account, - - $1,803,000 and the like amount will then be chargeable against the balance standing to the credit of profit and loss.

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* Except $13,356.51, due at earlier dates.

Summary of the Liabilities and Assets of the Lehigh Coal and Navigation Company—Jan. 1, 1856, to Jan. 1, 1863.

LIABILITIES.	Jan. 1, 1856.	Jan. 1, 1857.	Jan. 1, 1858.	Jan. 1, 1859.	Jan. 1, 1860.	Jan. 1, 1861.	Jan. 1, 1862.	Jan. 1, 1863.
Capital Stock, - - - - - -	2,475,900 00	2,479,700 00	2,479,900 00	2,479,900 00	2,479,950 00	2,479,950 00	2,479,950 00	2.479,950 00
Common Loans, - - - - - -	3,091,498 10	3,091,498 10	3,091,498 10	2,790,081 92	2,790,081 92	2,790,081 92	2,788,181 92	2,788,181 92
Mortgage Loan, - - - - - -	831,972 00	829,422 00	829,222 00	829,222 00	829,172 00	626,789 33	All paid.	
Floating Debt, - - - - - -	316,494 81	322,512 24	286,202 14	231,531 49	265,822 85	303,927 08	352,608 33	725,180 81
Unpaid Dividends, - - - - -	4,307 20	4,364 20	7,209 70	6,651 20	5,757 20	5,767 70	7,024 70	8,631 20
Arrears of Interest, - - - - -	54,300 26	53,523 40	52,048 43	53,716 40	54,513 88	50,713 00	54,096 02	55,696 35
	6,774,472 37	6,781,019 94	6,746,080 37	6,391,103 01	6,425,297 85	6,257,229 03	5,681,860 97	6,057,640 28
Balance to the credit of Profit and Loss account,	2,252,686 24	2,548,963 30	2,704,983 37	2,900,053 87	3,166,898 75	3,546,702 94	3,724,838 14	3 176,109 69
	9,027,158 61	9,329,983 24	9,451,063 74	9,291,156 88	9,592,196 60	9,803,931 97	9,406,699 11	9,233,749 97
ASSETS.								
Canal and River Improvements, - - -	4,455,000 00	4,455,000 00	4,455,000 00	4,455,000 00	4,455,000 00	4,455,000 00	4,455,000 00	4,455,000 00
Lehigh and Susquehanna Rail-road, - -	1,380,000 00	1,380,000 00	1,380,000 00	1,380,000 00	1,380,000 00	1,380,000 00	1,380,000 00	1,380,000 00
Real Estate, cost of coal mine lands and other lands, Rail-roads to the several mines of the Company, and other improvements, Wharves and Landings at Philadelphia, &c.	1,334,927 01	1,406,654 23	1,428,970 94	1,453,272 91	1,453,789 00	1,452,364 35	1,522,473 22	1,619,365 68
Moveable effects, Debts due the Company, Bills Receivable, Bonds and Mortgages, &c.	900,269 18	1,074,296 39	1,179,232 01	942,339 26	1,071,490 51	1,132,462 33	1,089,001 50	900,841 19
Contingent Fund: cost of investments, -	906,126 58	968,066 58	957,191 03	983,139 78	1,210,253 67	1,335,038 16	913,069 11	795,647 37
Cash on hand, - - - - - -	50,835 84	45,966 04	50,669 76	77,404 93	21,663 42	49,067 13	47,155 28	82,895 73
	9,027,158 61	9,329,983 24	9,451,063 74	9,291,156 88	9,592,196 60	9,803,931 97	9,406,699 11	9,233,749 97

ENGINEER'S REPORT.

Office of the Lehigh Coal and Navigation Company,
Mauch Chunk, January 6, 1863.

James S. Cox, Esq.
President Lehigh Coal and Nav. Co.

Sir,—I respectfully submit my Annual Report of the works under my charge, for the year ending December 31, 1862.

The water was let into the Lower Section of the Company's canal, on the 15th of March, but owing to prolonged cold weather, the ice remaining in some of the pools on the Upper Section, prevented the resumption of navigation on that section until the 8th of April. Business was commenced on the Lehigh and Susquehanna Rail Road simultaneously with the opening of the latter.

The repairs to the rail roads extending from the Company's mines to the landings at this place, and to the inclined planes and chutes, were completed, and shipments of coal from the mines commenced on the 3d of April.

The navigation of the canal continued as usual, without any serious interruption until the 4th of June last, when the valley of the Lehigh became the scene of the greatest and most destructive flood that has ever occurred in this region, since its settlement.

The rain which was the immediate cause of this flood commenced falling on the afternoon of the 3d, and continued without intermission for 30 hours. Many of the artificial dams, designed to furnish water power to the numerous saw mills, located upon the tributary streams which flow into the river, unable, in the condition in which they then were, to withstand the pressure of such an accumulation of water, gave way, suddenly precipitating from the pools or reservoirs formed by these dams a vast amount of water, into the river, thus increasing the volume, already swelled to an extent rarely, if ever before equalled.

About the time that the flood attained its maximum, the booms erected by the lumbermen in the pools near White Haven gave way, releasing from 200,000 to 300,000 saw logs, which, swept down by the current with resistless force, occasioned great damage to the works along the whole extent of the line. I feel confident, from a careful examination of those portions of the dams on the Upper Section which still remain, that the recoil of this immense fleet of saw logs, acting as battering rams against the breast or front and lower slope of the dams, was the proximate cause of their giving way. It is quite probable that, without this extraneous influence added to the unusual accumulation of water, many of the dams which gave way might have resisted the pressure, thus averting much of the damage that actually occurred.

The effect of the logs upon the canal and guard banks, both on the Upper and Lower Sections, was also very damaging, in many places battering down the protection walls, and ploughing up the embankments, thus affording to the impetuous current an unobstructed way for the completion of the ruin, by washing away the now unprotected and loosened earthwork.

The damage done to the Company's works, by this unprecedented flood, was much greater than that occasioned by the great freshet of January 7th, 1841. The loss of life, and the destruction of private property along the valley was also immense; it is estimated that between one and two hundred persons perished by this calamity. It is believed that the volume of water discharged in a given time, was at least 50 per cent. greater than has been vented during any previous flood, that has occurred since the operations of your Company were commenced in the valley of the Lehigh.

The water rose 27 feet above low water mark in the pool at this place, which is about 10 feet higher than it rose in 1841. The greater spread and increased velocity of the water, during the late flood, fully sustains the assumption of 50 per cent. increase in volume.

It will be seen by an examination of the following account of the damage sustained by the works, on the whole line of the Navigation, that the destructive effects of the flood were greater on the Upper, than on the Lower Section; and also that the portion of the latter, which extends from Allentown to Easton, was comparatively little injured. This is owing to several causes, one of which is, that the rain above the Blue Mountain range was much heavier than below. The streams flowing into the Lehigh below the

Lehigh Gap, scarcely overflowed their banks, whilst on the Upper Lehigh the tributaries were exceedingly high, carrying into the river, not only the immense quantities of water borne from their water-sheds, during a period of thirty hours of heavy and incessant rain, but in addition, as previously stated, the sudden discharge of large bodies of water, stored in the pools of numerous saw-mill dams.

The wave or swell caused by the giving way of some of the large navigation dams above this place, as they were, probably for the most part, successively swept away, gradually subsided in its onward course, in accordance with the well known laws of running water, and in consequence of its diffusion over the expanding river bed, so that at the distance of twenty to twenty-five miles below this point, it was scarcely noticeable.

Immense numbers of saw-logs were lodged on the islands, on the shores of the river, in the adjoining fields, and on the banks of the canal, along the whole line from White Haven to Easton, which also had the effect of diminishing the damage that the works along the lower portion of the line would have sustained, had all the logs passed through to the Delaware.

The following account shows, somewhat in detail, the extent of the damage done to the works on the entire line of Navigation, beginning at White Haven, the head of the Slack Water Navigation:

Dam No. 20 and Lock No. 29 sustained no injury of any account.

Dam No. 19—The covering of the lower slope was partly torn off, and the timber work in the breast of the dam was considerably damaged and partially carried away; most of the stone filling below the apex, or combing of the dam was washed out. This dam, and the one at White Haven, are the only ones on the Upper Section, at which water-powers were in use. Lock No. 28 was but little injured.

Dam No. 18 and Lock No. 27 sustained no material injury.

Dam No. 17 remains standing though much shattered. The Lock (No. 26) is entirely gone, not a vestige being left; the long guard-bank extending from the lock to the dam, and the guard-bank connecting the lock with the shore, are entirely swept away, together with a large portion of the river bank. The canal level immediately below this lock, is about one-half destroyed—the upper part so entirely, that a stranger now viewing it, would never suspect the former existence of the canal. The Outlet Lock (No. 25) is essentially uninjured.

Dam No. 16.—The covering on the lower slope is partially destroyed, and the stone filling in the lower cribs has been washed out, otherwise it is not much injured. Lock No. 24 is still standing, with the exception of the lower wing wall on the river side, which was undermined and thrown down.

Dam No. 15.—Both ends of the dam are destroyed; the middle remains, very much damaged. The guard-banks at both ends of the dam were swept away. Lock No. 23 was partially destroyed, the wall on the river side being carried away, and also the guard-bank between the lock and the shore. The canal level below this dam was almost entirely destroyed or filled up, though the Outlet Lock (No. 22) was but slightly injured.

Dam No. 14 remains, though in a somewhat shattered condition. The guard-wall connecting the lock with the shore, together with a large quantity of earthy matter, was swept away, leaving bare the perpendicular rock. The lock itself (No. 21) has received only slight injury.

Dam No. 13.—Most of this dam is still standing, though badly torn, having lost much of its stone filling. Not a vestige of Lock No. 20 and of the guard-bank that connected it with the shore, remains.

Dam No. 12.—About three-fourths of this dam remains, very much dilapidated, the ends of the cribbing having been much battered and broken by the recoil of logs, and the stone filling washed away. The Lock (No, 19), lock-house and guard-bank were entirely destroyed. At this point, owing to the narrowness of the river bed, the water rose ten feet higher than in the freshet of 1841.

Dam No. 11 and Dam No. 10.—Both of these dams are in the same condition; about one-half of each remains, though in such a condition as to be unavailable, without great expense, for future use. The Locks (Nos. 18 and 17) with all their appurtenances, guard-banks, &c., have entirely disappeared.

Dam No. 9.—The greater part of this dam remains standing, but like the Rockport Dam strikingly illustrates the damaging effects of the recoiling saw-logs. The covering poles are torn off, the cribbing displaced, and the stone filling washed out. The centre of the dam has perceptibly sunk. The lock (No. 16), with the connecting cribbing, has been swept away.

Dam No. 8.—The "Barn-Door Dam" is more than half gone, and the remainder is more or less injured. Only the shore wall of the Lock (No. 15) remains; the other wall, together with the guard-banks and abutment have yielded to the overwhelming torrent. No vestige of the canal level, or of the Outlet Lock (No. 14) at its lower extremity, can now be seen.

Dam No. 7.—The condition of this dam is very similar to that of No. 8, with the exception that the entire Lock (No. 13), with lock-house and guard-banks, is gone. The upper part of the canal level below this dam is entirely obliterated, while about one-half is in tolerably good repair. The Outlet Lock (No. 12) at Penn Haven is in good condition.

Dam No. 6.—Both dam and lock (No. 11) are standing, though very much injured. The lock wall on the river side is badly undermined, and could not be repaired without removing it entirely. The canal level below is almost entirely destroyed, though as in many other instances where the canal bank was swept away, the Outlet Lock (No. 10) successfully resisted the pressure of the flood.

Dam No. 5.—Only a small portion of the east end of the dam is left. The wall of the Lock (No. 9) on the side of the river has been swept away, leaving the other wall, and the guard-bank attached to it, uninjured. About two-thirds of the canal level have been washed away, leaving the Outlet Lock (No. 8) unharmed.

Dam No. 4.—This dam experienced the same fate as No. 5. The guard wall, however, was carried away, and the water made a clean sweep between the lock wall and the shore, excavating the earth almost to the bottom of the lock foundations. About one-half of the canal level, below this dam, is destroyed, giving such vent to the raging waters as to secure the safety of the Outlet Lock (No. 6) at its lower extremity.

Dam No. 3.—About two-thirds of this dam is gone; the remainder is in a tolerable state of preservation. A portion of both walls of the Lock (No. 5) remain in a shattered condition: the short level below has been filled up, but the Outlet Lock (No. 4) remains unimpaired.

Dam No. 2 is entirely swept away. The east wall of the Lock (No. 3), with the guard wall, is uninjured; but the west wall, with the exception of the wing wall, has been carried away. The wing wall that stands was turned on its foundations, as on a pivot, by the tremendous power of the torrent. The upper half of the canal level below Dam No. 2 is almost entirely washed away; but the lower half is but little damaged, and the Outlet Lock (No. 2) is wholly uninjured.

Dam No. 1 was seriously injured. One-half of the dam on the eastern extremity was undermined in front to the depth of 27 feet, and the filling was mostly swept away; the toe of the western extremity was also badly shattered and undermined; a portion of the abutment thrown down, and the long guard bank connecting it with the shore entirely destroyed. The giving way of this guard bank, opening a new outlet for the water, caused a change in the current of the entire river, nearly at right angles to its former course, and, in consequence, the ground occupied by the Company for the storage of lumber, and several acres of land below, were washed away, in some places, to the depth of more than 30 feet. A portion of the public highway was undermined and precipitated into the raging flood, leaving the rocks upon the mountain side bare. Nine tenant houses, belonging to the Company, were buried in the common ruin, the occupants losing all their effects, and barely escaping with their lives.

The lower end of the "Lumber Plane," together with the machinery connected therewith, the Company's warehouse, which stood upon the wharf above the guard bank, and a large portion of the wharfing between the guard bank and the "Room Run" shipping fixtures, shared the fate of the guard bank.

The Lock (No. 1) was also greatly damaged. The walls on the river side were undermined and thrown down, and the cribbing, connecting it with the dam, entirely torn away. The head wall, of the other side, was also undermined and thrown down, the water making a breach over it, and sweeping clean, all the material filled in between the lock and the mountain.

Having thus succinctly stated the damages sustained respectively by the dams and the locks in the Upper Section, it is proper to add, that about one-half of the towing paths along the several pools have been destroyed, and all the bridges crossing tributary streams have been carried away. The wire suspension towing path bridges crossing the river at Lock No. 6, and near Stony Creek, and the wooden bridge at Penn Haven, were also carried away.

Ten of the lock houses on this section were totally destroyed, and several others more or less injured, the families of the lock tenders barely escaping with their lives; while, in one instance, an entire family was swept off, and perished.

In all cases where the locks have been above described as having been partly destroyed, it must be understood that all the lock-gates, wickets, and other appurtenances, were carried away.

For additional particulars, in regard to the devastating character of the flood, its effects upon the river bed, and the works that still remain, and an estimate of the cost of restoring navigation in this section, I would respectfully refer you to Reports made to the late President of the Company, under date of July 15th and December 8th, 1862. In the same reports, my views are expressed, in regard to the expediency of restoring the navigation to its former state, or of constructing a railroad upon the river bank, in its stead.

Lower Section.

The pool of Dam No. 1 was filled up with the material of which the guard bank at the next dam above was composed, together with the immense amount of earth and debris that has already been described, as having been carried away with it. It is estimated that at least 100,000 cubic yards of material will have to be removed from this pool, in order to restore navigation for loaded boats.

The chutes, pockets, and trestling at this place, were all carried away, (with the exception of a portion of Chute No. 1), together with the rolling screens, steam engine, and machinery connected therewith; but the East Mauch Chunk shipping fixtures, on the other side of the river, escaped any material damage. The towing path opposite to the chutes was almost entirely carried away, and the wharfing along the river front was extensively injured.

The Mauch Chunk Dam (No. 1) was undermined, and much of the stone filling, and the covering and timber work of the lower slope, was carried away. The toe of the dam was also injured, and the abutment and guard bank, at the west end of the dam, entirely washed away.

At Lock No. 1, the guard walls at the head, the coping and one of the lower wings, with a portion of the river side walls, were swept away, the latter being undermined to the depth of 8 or 10 feet. The crib work on the river side, extending from the dam to the lower end of the lock, was badly injured, and the feeder mostly destroyed. The long fender crib, extending upwards into the pool, from the dam, has entirely disappeared. The guard bank, between the head of the lock and the Lehigh Valley Rail Road, was washed out, carrying with it the lock tender's house.

About one-half of the canal, between Locks No. 1 and No. 2, was so completely demolished, that the location of the towing path was with difficulty determined.

In addition to the injuries sustained by the dam and lock, at this place, much damage was done to other property belonging to the Company. The store house, situated on the wharf, containing a large amount of supplies, tools, &c., and one of the large stables near the dam, with its contents, were swept from existence; the other stable was moved about 30 feet from its foundations, and badly racked. The "Mansion House" Hotel, belonging to the Company, was also considerably injured in the lower stories. The large piazza in front and on the ends was crushed and torn away by commingled masses of floating logs, boats, and ruined houses, and the fencing destroyed. The large new stable and ice-house, connected with the Mansion House, were entirely destroyed.

The protection walls, extending from the dam to the lower end of the Company's Office, was undermined and swept away, carrying with it a large portion of the vacant ground on the east side of Susquehanna street. The bridge crossing the river at the Mansion House, was carried away at an early period of the freshet.

The canal between Locks No. 3 and No. 4, located in the bed of the river, and commonly called "the deep level," was entirely swept out, in some places, to the depth of 12 or 15 feet below canal-bottom. Nearly the entire length of this level was built in the channel of the river. The towing path consisted of a heavy and expensive crib work, filled with stone, lined on the inside with water-tight materials, and protected on the outside with a heavy vertical wall, laid in cement.

Lock No. 4, at the lower end of this level, was entirely destroyed, and the foundations so much disturbed as to require relaying.

The bank on the river side of the level, between Locks No. 4 and No. 5, was nearly all carried away, notwithstanding it was well protected with slope walls and paving.

The level between Locks No. 6 and No. 7, is about 5000 feet long, and is built mainly in the bed of the river, the bank being protected with slope walls, both inside and out. These walls, owing to the severe action of the floating saw logs and timber, were considerably injured, and the banks more or less broken down. At the lower end of the level, for several hundred feet, they were entirely washed away.

The damage to Lock No. 7 was slight; but a long and heavy guard bank, extending from the lower end of the lock (at right angles to the canal) to the river, was swept out. The force of the water, rushing through the breach thus made, caused the destruction of a large portion of the banks in the level below, and for a long distance filled up the prism of the canal with the debris of the guard bank and adjacent lands.

Towards the lower end of this level (between Locks No. 7 and No. 8) the banks were very much injured by drifting saw logs, broken boats, and the wrecks of bridges and houses. A breach was made at the foot of the level, near the head of Lock No. 8, through both the towing path and the berme banks, carrying away the fender cribs on both sides.

The damage done to the levels, between Locks No. 8 and No. 10, was confined mostly to a partial washing away of the towing path, somewhat damaging the waste weirs.

The level between Locks No. 10 and No. 11, was badly torn at the lower end, the banks having been excavated by the force of the current to the depth of several feet below canal bottom. A large amount of mud was carried into the upper end of this level.

Locks No. 11 and No. 12 were badly undermined at their heads, and portions of the masonry were broken and tumbled down.

The banks forming the canal levels above Lock No. 11, and between Locks No. 11, No. 12, and No. 13, were nearly destroyed, and the prism of the canal partially filled with mud and sand.

The towing path bridge below Lock No. 13, spanning "Poco Poco" Creek, with its pier and abutments, was entirely carried away.

The timber work of Dam No. 2, near Perryville, was but little injured; but the long, heavy guard bank, extending from the dam to the guard lock, was entirely carried away, together with the stone feeder arches, and the masonry composing the abutment of the dam. The Guard Lock No. 2 was also much damaged, the head wall having been battered down, and the gates and other appurtenances carried away.

The Double Lock No. 14 was not much injured; but the short canal level above, and the heavy embankment on both sides of the lock, were completely swept out.

The canal level, between Locks No. 14 and No. 15, which, being much exposed to the force of the current, had on several previous occasions been badly damaged by freshets, was now completely destroyed, so that no part of it was discernible after the flood subsided. Lock No. 15, at the foot of this level, was dismantled, the head walls being undermined, thrown down, and washed away.

Owing to the protection afforded by heavy slope walls and paving, the level below Lock No. 15 was not much more injured than it was in the freshet of 1841. The level, however, was filled up with more than 40,000 cubic yards of sand and coal dirt.

The levels between Locks No. 16 and No. 18, sustained much injury, the banks on both sides of the canal having been either swept away, or greatly torn. Immense piles of drifted materials, consisting of saw logs, broken boats, wrecked buildings, &c., filled up the prism of the canal, and covered the broken banks.

The towing path of the level below Lock No. 18 was considerably injured, and the canal filled with gravel.

Dam No. 3 was not materially injured. The long guard bank, extending from the western end of the dam, was, however, completely demolished, and the base upon which it stood, dug out by the force of the water 15 to 18 feet below the bed of the river.

Guard Lock No. 20 was not much damaged, but the feeder, outside of the lock, was much injured. The canal level below this lock, about 3300 feet in length, was almost entirely destroyed, the bank on both sides having been swept away, after a large amount of slope wall overlying it, had been battered down and destroyed. At this point the canal, and the flat land that spreads out between the canal and the base of the adjacent hills, were completely inundated, and several loaded boats were left resting in the fields, far inland. The level below Lock No. 21 was also much damaged, though not so much as the one above.

The levels, between Locks No. 22 and No. 24, were but slightly injured, but in the level below Lock No. 24, for 500 feet, the towing path was nearly half destroyed, the material having been washed into the canal. The balance of the towing path, excepting about 200 feet above Lock No. 25, had the facing washed off. The same may be said of the level between Lock No. 25 and Lockport.

Dam No. 4, known as "Kuntz's Dam," was the scene of fearful havoc. The guard bank connecting the lock with the shore gave way, allowing the whole current of the river to rush through the opening. The entire mass of material between the lock and the shore was swept away, down to the solid rock, and the canal level below was torn up, and ploughed down to a great depth below the original bottom, for a considerable distance. The lock itself escaped destruction solely from the fact that the foundation was built directly upon the rock. Nearly the whole level between this dam and Lock No. 28 was so completely demolished, that in restoring the navigation, it was deemed expedient, for this and other reasons, to change its entire location.

The timber work of Slate Dam (No. 5) was not materially injured. About 200 feet in length of the guard bank, extending from the guard lock to the mountain, was torn out, down to the original river bed. About 500 feet of the remainder of the bank was also washed away, though not to so great a depth. Here, also, as at Kuntz's Dam, the terrible energy of the flood manifested itself. The whole force of the current, passing between the lock and the foot of the hills, washed out all the filling around the lock, and several acres of the adjoining land, down to the solid rock, the materials filling up the level below for a long distance, to the height of 8 or 10 feet. The heavy, walled, towing path bank, extending from the foot of the lock a long distance down the level, was swept out and excavated by the force of the water to a great depth below canal bottom. The guard lock was also undermined, and large masses of the cemented masonry, at the head, broken off and thrown down. The remainder of the level, extending down to Lock No. 32, was badly damaged.

Much of the level between Locks No. 33 and No. 34 was badly damaged, both berme and towing path banks being carried away.

Dam No. 6 remains uninjured, but the earthen guard banks at both ends were swept away, though not excavated to so great a depth as at the other dams before mentioned. The massive head walls between the dam and guard lock, erected by the "Crane Iron Company," to supply the furnaces with water power, together with the gates and appurtenances, were totally destroyed. The guard lock was not injured beyond a partial dismantling of the gates and top of the head or guard wall, and the displacement of the coping of the chamber walls. About 500 feet in length of the towing path below the lock, notwithstanding the protection afforded on the outside by a heavy bank of furnace cinders, was, together with the latter, leveled down and carried away by the force of the raging torrent. On about a thousand feet of the lower end of this level the water broke out from the canal and swept it away, with the embankment which formed the towing path, to the depth of several feet below canal bottom, entirely destroying the Crane Iron Company's canal basin, and otherwise causing considerable damage to surrounding property.

Between Locks No. 36 and No. 39, about two thousand feet of the banks forming the canal levels, were mostly swept away. A breach occurred in both berme and towing-path banks, at each side of the head of Lock No. 39.

The dam at Allentown (No. 7) escaped unharmed. The cribbing extending from the dam to the foot of the guard-lock, and forming the feeder for supplying the canal levels below with water, was partially destroyed. About five hundred feet of the massive earthwork which serves as a guard-bank, connecting the western end of the dam with the adjacent high ground, together with the cemented stone abutment at the end of the dam, was overflowed and carried away,—a portion of it to the depth of from fifteen to twenty feet below the natural bed of the river. The guard-lock escaped serious damage, but the filling or embankment on each side was torn out to the solid rock.

From Dam No. 7 to Lock No. 40, five hundred feet of bank was partly washed away, though not below the canal bottom. At the head of Lock No. 40, the water broke out of the canal, carrying away about two hundred feet of the bank. Below the lock, the river forced its way into the canal, sweeping off the bank to canal bottom.

About one-quarter of the bank on the "Three-Mile" level, to the Waste Weir, was destroyed, and at the Waste Weir, for a distance of two hundred feet, it was swept away to the bottom of the canal. From this point to the canal bridge, not much damage was done, but at the bridge, the bank was excavated to a depth of three feet, for a distance of two hundred feet. More or less damage was sustained by the banks at different other points on this level, and at the lower end of it, five hundred feet of the berme bank were levelled to the bottom of the canal.

Between Locks No. 41 and No. 42, about one-half of the towing-path, for a distance of one thousand feet, was destroyed, and at Rice's Boat-Yard five hundred feet of the berme bank were washed away, though not to canal bottom. A break of moderate extent occurred in the Bethlehem basin.

The towing-path from Lock No. 42 to the foot of the rocks, a distance of half a mile, was nearly half carried away, as well as five hundred feet of the berme bank.

The "Chain Dam" (No. 8) sustained no injury, but the low bridge, in the pool of this dam, commonly known as the "Causeway," was destroyed, as was also the wire suspension bridge, connecting the island with the western bank of the river.

The remainder of the canal, from this point to the outlet lock at Easton, was comparatively little injured.

Although no report has been specifically made above, in regard to many of the levels and locks in the Lower Section, it must not be inferred that they sustained no injury. As the flood, when at its height, occupied the entire valley of the river, burying every thing beneath its raging waters, no portion of the canal or of the works upon it could be found, that did not show some evidence of its devastating power. The towing paths along the pools of all the dams on the Lower Section were more or less damaged; those located along Dams Nos. 1, 2, 4 and 5, were so much injured as to render the expense of repairing them almost equal to one-half of the original cost of construction.

Nearly all the bridges crossing the canal, locks, basins and streams flowing into the canal and pools, were swept off.

The locks not otherwise materially damaged, were all more or less filled with sand, mud, broken boats, saw-logs and drift wood; the canal levels were also greatly encumbered with similar materials, and the banks and slope-walls more or less injured. In most instances, the balance beams, and, not unfrequently, the gates and wickets with the appurtenances belonging thereto, were torn away.

Eight lock-houses were entirely destroyed, and as on the Upper Section, one entire family was buried beneath the ruins of their dwelling and perished.

All the houses used for the storage of tools, lumber and other supplies, along the entire line, with the exception of those at Weissport and South Easton, with their contents, were borne away by the flood. It is estimated that, with that which was swept away from the Company's lumber yard at Mauch Chunk, nearly one million feet of sawed lumber, belonging to the Company, was thus lost.

As near as could be ascertained, from 150 to 200 coal boats were carried away, few of which were ever recovered; the Company's pecuniary interest in these boats did not exceed $7000. In addition to these, nearly all the gravel boats and all the boarding boats belonging to the Company, were destroyed. One of the Company's dredge-boats, with its steam-engine, boiler, pumps and other machinery, was swept away from its moorings near this place, and no vestige of any part of it, except the anchor, has since been found.

As soon as the flood had sufficiently subsided, measures were taken to ascertain the extent of the damage, partial reports of which were immediately made to the late President. The reconstruction of the damaged works, and the restoration of the navigation in the Lower Section, together with Dam No. 1 in the Upper Section, having been ordered by the Board, the whole distance to Easton was divided into three divisions, and a competent corps of engineers placed upon each, so that the work could be carried on simultaneously upon the whole extent of the line.

The 1st Division, under the direction of Mr. A. A. Douglas, extended from Mauch Chunk to the Lehigh Water Gap; the 2d Division, under Mr. A. J. Winterstein, extended from the Gap to Allentown; while the 3d Division, under the direction of Mr. R. A. Abbott, embraced the remainder of the line.

At the very commencement of the work, great difficulties had to be encountered, which caused some delay, and, in connection with the high prices of labor and materials, greatly enhanced the cost of reconstruction. All the wheelbarrows, picks, shovels, and other implements of repair, belonging to the Company, having been swept away, the whole surrounding country, as well as the cities of Philadelphia and New York, were laid under contribution to furnish the needed supply of these articles. All communication with the sources of supply, having been for a season cut off by railroad, as well as by canal, and all the bridges on the ordinary highways, spanning the streams that flow into the river, having been destroyed, everything needed for the prosecution of the work, including even the food for the laborers, had to be transported by teams, in some instances, many miles, over circuitous, rough, and almost impassable roads.

Another difficulty was encountered in the scarcity of laboring men, as well as of artisans of all kinds. The call of the President of the United States for 300,000 volunteers, and the draft that immediately followed, occurring about this time, took off a great number of men; so that, notwithstanding the number of hands released by the sudden suspension of all mining operations, a sufficient supply could not at once be obtained. An agency was consequently established in New York, to forward laborers, as fast as they could be procured, by which about 800 men were supplied.

For five or six weeks after the commencement of operations, the work was delayed by sudden rises of water, occasioned by frequent rains, that overflowed many places upon which no work could be done, except at low water; but after that time, the weather continued remarkably favorable, during the entire season, so that no further interruptions occurred from this source.

On the 9th of June, the repairs were commenced with a small force, but, by the 15th of the same month, 1200 men, and about 100 teams, were employed. The average number of men engaged on the line, during the whole period, until the resumption of navigation, was about 2500, and the number of teams about 500. On some important governing points the work was prosecuted night and day—Sundays excepted—by different sets of hands, in order to secure the simultaneous completion of the whole line.

A large force of men was employed, during the whole period of the suspension of navigation, in removing the sand, earth, and coal-dirt that had been washed into the pool at Mauch Chunk, and in the reconstruction of the locks and dam at that place. Sixty feet was added to the length of the dam, and an abutment of heavy masonry, laid in hydraulic cement, was constructed at its western extremity, the foundations of which were laid in water fifteen feet deep. This abutment is forty-two feet high from its foundation.

The "deep level" between Locks No. 3 and No. 4 received early attention, and a force of 250 men was kept at work upon it, and the lock below, during the whole time. Situated in the bend of the river, where the whole force of the current expended itself, the entire cribbing and bank, though protected by a heavy vertical cemented wall, was washed away, leaving in its place the deep, rapid channel of the river. In this channel must the new foundations be laid, and made secure, if possible, against the recurrence of a similar disaster. This was successfully accomplished with great labor, by sinking a heavy cribbing for a distance of 1200 feet, filling it up with stones, and lining it with plank and water-tight materials. The peculiar nature of the locality forbade the adoption of any other location of the canal; or of any other material for the construction of its bank; but it is believed that the care exercised in its construction will enable it to withstand the pressure of future floods. The lock, which had to be entirely rebuilt, is now defended on the river side by a heavy protection wall.

With the sanction of the Board, several important changes in location, &c., were made, at exposed points, designed to lessen the danger to be apprehended from unusual freshets. At Parryville, Locks No. 12 and 13 having been much damaged, their remains were entirely removed, and a new one constructed on the site of Lock No. 13, with an increased lift, thus dispensing with one lock; at the same time decreasing the risk of future injury, and obviating the delay to navigation hitherto occasioned by the crowding of boats into the short level between them.

Near Dam No. 2, very important and highly beneficial changes were made. The guard lock and guard bank, 500 feet in length, connecting it with the dam, were entirely dispensed with, and, what was left by the flood, removed. The dam was lengthened 132 feet, and an abutment and guard bank built, connecting it with the double Lock No. 14.

The level between this lock and Lock No. 15, sweeping around a curve in the river, was very much exposed to the action of the water, and has repeatedly been destroyed. It was therefore deemed expedient to abandon the old bed of the canal, and, by a deep cut across the bend, to form a new prism, for a distance of about 4000 feet. A new lock was constructed at the lower end of this level, with a 16 feet lift, in lieu of Lock No. 15, which was abandoned, thus raising the bed of the new cut 8 feet above the former level. The cost of these alterations and improvements has been much greater than would have been necessary, for restoring this part of the canal to its former condition, but this increased expense is fully warranted by the increased security afforded ; for, while it was before one of the most exposed points on the whole line of the canal, it may now be considered as entirely safe from future inundations.

At Kuntz's Dam (No. 4), where the level, extending from the guard lock to Lock No. 28, has also heretofore been much exposed to the action of floods, owing to the narrow pass through which the river had to flow, the adjoining land was secured by purchase, and a new level formed farther inland, thus giving additional security to this portion of the works in the future.

At the Slate Dam, at the guard lock, and on the level below, a large force of men and teams was constantly employed, during a portion of the time, by night, as well as by day. A section of the dam had to be taken out, and permanent sluice ways formed, in order to draw off the water in the pool, so that the breach between the lock and the shore, through which the river flowed, could be repaired. In this breach a heavy crib work of timber, filled with stone, sheet piled in front, and puddled with water-tight materials, was built; and upon this crib work a heavy cemented wall was erected, to serve as a protection. A similar plan was adopted in repairing the other guard locks and guard banks on the line, where a breach was made between them and the shore, by which, hereafter, should the water ever rise so high as to overflow the guard banks, nothing can be carried away below the top of the dam.

The line of the guard bank and towing path above the guard lock was changed, so as to obviate the difficulty which heretofore existed, in passing boats into and out of the locks. One of the head walls of the lock, which had been undermined and thrown down, was rebuilt, the foundations being laid upon the solid rock, in the deep water beneath the timber foundation of the old lock.

At the Allentown Dam, where, after the abatement of the flood, the river continued to flow through the space formerly occupied by the abutment and guard bank, it was deemed expedient to make an addition of 92 feet to the length of the dam. This addition, and the new stone abutment at its extreme end, were built in very deep water. As the canal between this place and Easton was much less damaged than it was above, and could be restored to a navigable state long before this work could be completed, a substantial though temporary coffer dam was erected above the breach, which turned the water back to its natural channel, and allowed the navigation below to be resumed about two months earlier than otherwise could have been done.

In the repair of the works on the Lower Division, between Allentown and Easton, about 500 men and an adequate number of teams were employed for a period of about 40 days.

Some portions of the work on each of the Divisions, such as the building of slope walls, raising and repairing the banks, &c., were let out by contract, and are still in progress; they will be completed during the ensuing season.

It is believed that the whole line of the Lower Section, when entirely completed, will be in better condition than ever before to meet every contingency, and successfully to resist the attacks of future inundations. The increased length of several of the dams will give freer vent to the water, and the increased height of the banks, and elevation of some of the levels, will lift them above its damaging influence. The heavy stone guard walls, extending in some instances from the guard locks to the solid rocks upon the shore, and the cribbing work built up, in other cases, in the chasms formed by the rushing waters, will effectually prevent the repetition in those places of such devastating calamities.

Except in the case of the sudden release of accumulated waters, by the giving way again of the lofty dams of the Upper Section, should they ever be restored, it may safely be assumed that the entire line is placed beyond the probability of serious damage in the future.

The water was let into the canal from Allentown to Easton on the 26th of July, and from Hoquendoqua on the 20th of August, from which dates navigation was resumed below these points, respectively, and the furnaces along the canal were enabled to receive their usual supplies of ore, limestone, &c.

The entire line was sufficiently completed to receive the water by the 29th of September, and empty boats having in the meantime passed up, the regular shipment of coal from the Company's mines, and from the shipping fixtures at East Mauch Chunk, commenced on the 3d of October. From this time until the close of navigation by the ice, on the 19th of December, no interruption of any kind occurred. The banks of the canal were found to be more completely water tight than before, many of the leaks that have existed since its first construction having been effectually stopped.

On the Upper Section, Dam No. 1 and its guard lock have been partially restored, and the work is still in progress. At the lock, pumps, with steam engine, boilers &c. have been put up, for the purpose of removing the water in which the lock foundations are buried, and other arrangements have been made so as to secure the completion of the lock by the opening of navigation, unless the work is interrupted by high water.

The work of reconstructing this lock, as was the case after its destruction in 1841, proves to be exceedingly tedious and expensive, on account of the difficulty of keeping the deeply-excavated lock pit free from water.

The lessees of the Company's Room Run Mines, whose shipping wharves are situated in the pool above, by a special arrangement with the Company, have constructed a temporary rail road bridge across this dam, by which they have been enabled to ship their coal, not only from the East Mauch Chunk pockets into the canal, but by the Lehigh Valley Rail Road, and may continue so to do until this part of the navigation is restored.

Repairs have been made and are still in progress at Dam No. 19, near White Haven, to secure the work from further injury, and to maintain the water power existing at that place.

The construction of a new lock and basin at Mauch Chunk having been authorized by the Board, the foundations and walls of the lock have been erected, and some other work appertaining thereto has been done. The design of this basin is to afford a site not liable to injury from high water, on which to erect a series of pockets for the shipment of coal from the Company's mines, where operations would not be interrupted by fluctuations in the height of the surface of the water in the river. As soon as it is completed, the chutes and pockets now in use will be abandoned.

The outlet lock of the new shipping basin in Pool No. 1, Upper Section, has also been commenced. Since the flood no repairs have been made on the Descending Navigation, between Stoddartsville and White Haven, which embraces three dams. These dams were somewhat injured by the flood, some of the guard banks were more or less broken down, the "Bear Trap" locks damaged, and the wingwalls of the channels considerably leveled down.

1. *Upper Section.*

The expenditures on the Upper Section during the past year, up to the time of the flood, were confined mostly to renewals and ordinary repairs. The new work done and renewals made were as follows, viz:

1, Two new lower gates and breast work at Lock No. 10.

2. Three new flood gates at Lock No. 16.

3. The lower wingwall on the river side of Lock No. 17, rebuilt,

4. New upper gates were put into Lock No. 18.

5. Locks No. 19 and No. 22 were each supplied with new drop gates.

6. Lock No. 25 was raised two feet higher.

7. Two of the cribs for the floating tow-path bridge at White Haven were erected.

2. *Lower Section.*

The expenditures upon this section of the canal, exclusive of the extraordinary repairs which followed the great flood of June 4th, were chiefly confined to the rebuilding of portions of some of the locks, renewing bridges, relining lock chambers, &c., and to ordinary repairs, as follows, viz:

1. The masonry on the land side of Lock No. 2 was taken down and rebuilt.

2. One side of Lock No. 3 was relined with new plank.

3. The old wickets at Locks No. 4, No. 9, and No. 34, were replaced with new ones.

4. Both sides of Lock No. 5 were relined.

5. The feeder and cribbing at the head of Lock No. 6 were rebuilt.

6. New lower gates were put in at Lock No. 20.

7. The abutments and covered bridge at Walnut Port were rebuilt.

8. The towing-path bridge across the lower end of Lock No. 27 was renewed.

9. A portion of the lock wall at Lock No. 28 was taken down and rebuilt, and one side of the chamber relined.

10. The cribbing at the head of Lock No. 36 was rebuilt.

11. The bottom of Lock No. 40 was recovered with new planking.

12. The feeder at Lock No. 41 was rebuilt.

13. New mitre sills were put into Lock No. 49, and the sides of the chamber relined.

3. *Descending Navigation.*

On the Descending Navigation, between Stoddartsville and White Haven, the sides and chute of "Bear-Trap" Lock No. 2, which had become decayed, and much injured by fire, was rebuilt; otherwise only the usual work of clearing out channels and repairing wing walls was done.

To maintain the navigation, the following work, in addition to the ordinary repairs, will be required during the ensuing year, viz: A cribbing should be sunk in the deep water below the overfall, and connected with Slate Dam, so as to render the dam secure, the timber work of which is very much decayed. About one-half of Kuntz's Dam needs to be secured in like manner. Besides these items, the work already alluded to, as having been let out by contract, and now in progress, will be all that is required, except ordinary repairs to maintain the works in good condition. It is proper, however, to remark that so much of the bridging, cribbing, timber work and planking has been built anew, during the repairs of the damage inflicted by the late flood, that the cost of ordinary repairs, for several years to come, will be comparatively moderate.

The following is a statement of the amounts expended upon the Navigation, during the past year, for ordinary renewals and repairs, not including the cost of restoring the works after the flood, viz:

Upper Section, from Mauch Chunk to White Haven,	$5,090 49
Lower Section, from Mauch Chunk to Easton, - -	22,000 00
Descending Navigation, from Stoddartsville to White Haven, - - - - - - - - -	195 87

Lehigh and Susquehanna Rail Road.

The road was opened for business on the 1st day of April. Shipments of coal from Wyoming were commenced on the 8th of April. The interruption of navigation, by the occurrence of the late flood, necessarily suspended operations on the road, so far as the coal trade was concerned; the passenger trains, however, were run regularly between White Haven and the head of the Planes, during the remainder of the season.

The following renewals were made during the year, in addition to the ordinary repairs, viz:

1. About one mile of track, in the main road near White Haven, was taken up and replaced with new iron, of the T pattern, weighing 58 pounds to the yard,—and ballasted with broken stone and gravel.

2. On the Inclined Planes, 2¾ miles of track were taken up, relaid, ballasted and furnished with new cross ties.

3. The Tank which supplies the locomotives and stationary engine at the head of Plane No. 1 with water, was entirely renewed.

4. The driving wheels of the locomotive engines "Susquehanna" and "Wyoming" were furnished with new wrought iron tyres, and the "Lehigh" with a new fire-box; other needful changes and repairs were also made upon them.

5. Four new eight-wheeled "flats" or platform cars have been built at the White Haven shops, and added to the rolling stock of the road. Suitable oak lumber, sufficient for building 100 new ten-ton coal cars, has been procured and stored away.

6. The curved branch road, connecting the foot of Plane No. 3 with the Nanticoke Rail Road, has been completed and put in operation.

An opportunity having occurred for the disposal of the wood-burning locomotives "Wyoming" and "Lehigh," they were sold at good prices. Coal-burners of a heavier class will be substituted, when needed.

The work of repairs on the road was suspended early in June, and will not be resumed until next season, when the track will again be put in good condition, to meet the requirements of the trade, which is expected to re-open on the completion of the Penn Haven and White Haven Rail Road, and its connection with the Lehigh and Susquehanna near White Haven.

To accommodate the passenger travel which it is expected this connection will bring to the road, a new passenger locomotive will have to be procured. A large addition to the number of coal cars now on hand, will also then be required.

The Nanticoke Rail Road Company having failed to complete their road in time for the opening of the spring trade, made an arrangement by which your Company agreed to complete the unfinished work on that portion of the road that extends from the foot of the Planes to the Baltimore Company's Mines, and to enter upon and transport coal from the several collieries situated upon the line, thereby enabling shippers to send forward the products of their mines. Until the navigation was suspended by the flood, a fair and steadily increasing business was done over the Road to White Haven, where the coal was reshipped into boats. The Nanticoke Road continued to be worked after the suspension of navigation on the Lehigh Canal, until the close of navigation on the Wyoming Canal, into which the coal was reshipped at South Wilkesbarre.

Before business on the Planes can be resumed, the two large drum wheels at the head of Plane No. 1 must be rebuilt, and the tracks at the head and foot of the plane relaid with new cross ties. The tracks on Planes Nos. 2 and 3 also need considerable repairs. From 8,000 to 10,000 new cross-ties will be needed to replace those now in the line of the road, that have decayed. The tracks in some of the deep cuts need to be raised up and ballasted, and the ditches re-opened.

In compliance with the directions of the Board, surveys have been commenced, having in view the location of a Rail Road commencing at the head of Plane No. 1, and extending by practical working gradients for locomotives, along the mountain sides and valleys east of Solomon's Gap, to the foot of Plane No. 3. The location of this road, it is expected, will be completed during the winter or early in the spring. This road is designed to increase the business capacity of the Planes, by conveying the empty coal cars over it to the foot of the planes, instead of letting them down the planes by the tedious mode now in use. It would also furnish a more safe and expeditious mode of conveying passengers and merchandise freights up and down the mountain. Should the road be built, it would prove, in many other respects, a valuable adjunct to the Company's line of improvements.

In order to facilitate the shipment of coal from the Company's Room Run Mines, one hundred and fifty ten-ton coal cars were taken from the Lehigh and Susquehanna Rail Road, hauled over the bridge across the Susquehanna at Wilkesbarre, placed on the Lackawanna and Bloomsburg Rail Road, run down to Rupert, and thence turned on to the Catawissa Road, by which they were conveyed to this place. Since that time they have been actively employed in carrying coal over the various roads leading from the Lehigh Valley to market. The rates of rent allowed for the use of these cars netts to the Company a handsome percentage on the investment.

Some 10 or 12 boats left in the pool and basin at White Haven, uninjured by the ravages of the flood, were taken out of the water, conveyed on trucks over the Lehigh and Susquehanna Rail Road, let down the planes, and safely deposited in the Wyoming Canal, at Wilkesbarre; thence, loaded with Wyoming coal, they were towed down the canal to tide water, and, by the way of Philadelphia, were brought back to the Lower Section of the Lehigh.

The following sums have been expended on the Lehigh and Susquehanna, and Nanticoke Rail Roads, viz:

For relaying about 1 mile of track, with T rail and ballasting, - - - - - - - - -	$380 87
For completing branch road connecting the planes with the Nanticoke Rail Road, - - - - - -	458 28
For ordinary repairs upon the road, including materials, and Superintendent's salary, - - - - -	7,229 67
For extraordinary repairs on locomotive engines, -	1,365 00
For ordinary " " " - -	349 31
For repairs on coal cars, - - - - - - -	4,738 43
For tools and repairs of shops at White Haven, - -	302 43
For purchase of lumber for 100 new ten-ton cars, -	2,323 50
For materials and work, exclusive of wheels and axles for 4 new "flats," or platform cars, - - - -	468 56
For repairs on Nanticoke Rail Road, - - - -	93 65
For transportation of coal, passengers, and miscellaneous freight on Lehigh and Susquehanna Rail Road,	6,328 95
For transportation of coal on Nanticoke Rail Road, -	665 41
For engineering expenses, - - - - -	602 99

Land Improvements.

The expenditures under this head during the past year were mostly made in repairing the damages of the late flood, and amounted to the following sums, viz:

For repairing and partially rebuilding the Company's stables on Susquehanna street (near the dam), -	$1,246 69
For new stable at the Mansion House, - - -	1,652 62
For work done at new lock and basin in Pool No. 1, Upper Section, - - - - - - - -	319 19

The foundations have been laid, and the materials procured, for rebuilding the large stable and wagon house, which was swept away at this place.

Coal Improvements.

The chutes, with their appropriate fixtures, were thoroughly repaired during the winter, and were ready for use at the opening of navigation in the spring. The flood of June 4th having swept them almost entirely away, they were rebuilt during the suspension of navigation. At Chute No. 2, however, the rolling screens were not replaced, owing to the pressure of work at other points. After the resumptton of navigation, the coal was passed over temporary standing or slide screens.

The long flume, extending from the dam above, for the purpose of conveying water to the screens to wash the coal, has also for the present been dispensed with. The rolling screens will be replaced during the present winter, and the flume rebuilt as soon as the dam above this place has been restored.

A new track scale, for weighing the coal shipped from the Room Run Mines, was put up at the wharf in Pool No. 1, Upper Section.

Two new store houses will have to be built, to replace those which were destroyed by the flood.

During the present winter it is designed to enlarge and improve the shipping fixtures at East Mauch Chunk, so as to furnish increased facilities for the transhipment of coal from cars to boats. The tracks or sidings to these pockets require considerable repairs. The shipments that have heretofore been made into the navigation at several points above this place, will, next season, all be concentrated here.

Back Track and Descending Rail Road from the Summit Mines to the Landings.

The "Back Track" and Descending Rail Road between Summit Hill and Mauch Chunk, having been recently laid anew with T rails, the repairs on the same last season were inconsiderable. The Planes, however,—Mount Pisgah and Mount Jefferson,—received the usual amount of attention in the way of repairs. The engines and machinery connected with these Planes are in good working order, and will need no extraordinary repairs during the coming year.

About 2000 feet of three-inch cast-iron pipes were laid, in place of the earthen ones before in use, extending from the Mount Pisgah Plane House to the spring which supplies the boilers with water, thus avoiding much annoyance and loss from the frequent breakage of the earthen pipes.

The trestling on the stock ground, used for depositing surplus coal at the summit, is much decayed, and will require renewing this year. One of the steam boilers at the rebreaker will also have to be renewed.

Panther Creek Rail Roads and Planes.

The usual amount of labor was bestowed on the repairs of these roads. As stated in my last Annual Report, the nature of the materials of which these tracks and road beds are constructed, requires a much greater expenditure for repairs than on a road laid with T rails.

The grading of about 500 feet of rail road was changed, and the track relaid from the "Switch Back" Rail Road to the Plain House at Panther Creek Plane, No. 1.

The new Plane House at Panther Creek Plane, No. 1, was completed last winter. This building has been erected in a very substantial manner, the walls being composed of heavy stone masonry, the whole roofed over with slate.

A new wire rope was placed on Panther Creek Plane, No. 2, last year. During the next year, it will be necessary to add two new steam boilers, to replace those now in use, which are nearly worn out. New wire ropes will also be required at Panther Creek Plane, No. 1. Beyond the above, no new work or renewals will be required on this portion of the Company's works during the ensuing year.

Mines.

The Company's mines at the Summit were worked with the usual force, from the opening of navigation in the spring until June 4th, when operations were totally suspended, until the resumption of navigation in the beginning of October; after which time, nearly the usual amount of coal was mined and sent forward to market.

One of the workings—Slope No. 3—was filled with water during the heavy rains which caused the great flood in the river. On account of the inadequate means at hand for freeing the mine from the immense amount of water accumulated in the spaces left by the removal of many thousand tons of coal, no coal could be mined during the remainder of the season. A powerful steam engine and pumps of great capacity have been contracted for, and will be erected at this mine during the present winter, so that, by the opening of business in the spring, it will be freed from water, and put in a condition to furnish the usual amount of coal.

The new workings at Slopes No. 4 and No. 5 having been completed, the shipment of coal from them commenced at the opening of the season in April last. The coal from these new workings, as was anticipated, proved to be of excellent quality, and will doubtless afford a profitable supply for many years to come.

The coal breaker at Slope No. 4, together with the apparatus for hoisting coal from the stock grounds at that place, were completed during the winter, and work well.

The Rock Tunnel (No. 10) which is being driven to the "great vein," from the base of the mountain on the north side of Panther Creek valley, about 1½ miles west of Tunnel No. 8, is steadily and rapidly progressing. It is expected that the tunnel will reach the coal some time towards the close of the coming season. In order to reap the advantages to be derived from the opening of this mine at as early day as possible, it will be necessary to construct a rail road of about 2 miles in length, and to erect suitable coal breakers and screening fixtures at the mouth of the mine during the present year.

A new pair of hoisting engines were put up at the head of Slope No. 4. The engine previously in use having proved unsuitable for the kind of work to be performed, has been removed to the Tamaqua colliery, where it is used as a pumping engine.

The deep excavation near Slope No. 2, for cutting off the fire, alluded to in my last Annual Report, has been prosecuted with little interruption during the whole year. The fire has made no perceptible progress during that time.

Room Run Mines.

The perpendicular shaft in process of sinking, on the 50 feet vein, owing to several interruptions by high water and other unforeseen difficulties, has not not yet been completed. It is confidently expected that this shaft and fixtures will be ready before next spring, so that at the opening of navigation, or soon thereafter, shipments of coal from this new working will be commenced.

From the new lift at Slope No. 1, a large quantity of excellent coal was mined, and shipped to market by the Lessees.

East Lehigh.

This mine is under lease. The slope has been sunk to the bottom of the basin, so that both pitches of the vein can hereafter be worked. The seam of coal is about 30 feet thick, and is of the best quality. If furnished with suitable hoisting machinery and pumping fixtures, this mine, for some years to come, would be capable of supplying at least 60,000 tons of marketable coal annually.

Tamaqua Mines.

This colliery was recently leased to Messrs. Wood, Moss & Co.. By the terms of the lease, among other things, the Company obligated themselves to furnish and put up an additional engine and boiler for pumping out the surplus water from the mine. This obligation has been fulfilled, and the engine formerly in use at Slope No. 4 is now in successful operation here. The mines are in condition to furnish this year an increased supply of coal.

The following sums have been expended on coal improvements during the past year, viz:

For new machinery, clearing out water, and repairing tracks, gangways, &c., at Slope No. 3, - -	$13,898 62
For new hoisting engines and machinery, and completing breaker at Slope No. 4, - - - - -	8,061 40
For completing Slope No. 5, - - - - -	8,379 51
For Tunnel No. 10, - - - - - - -	8,767 78
For excavating open cut, to put out the fire in the old workings at the Summit, - - - - - -	13,271 00
For sinking shaft and machinery at Room Run mines, - - - - - - - - -	19,759 10

For putting up machinery, &c., at Tamaqua mines,	5,154 32
For rebuilding chutes at Mauch Chunk, and repairing the Descending Rail Road from Summit to Landings, - - - - - - -	8,862 83
For repairing Back Track, &c., including Mount Pisgah and Mount Jefferson planes, and relaying water pipes, - - - - - - -	4,281 56
For completing engine house at Panther Creek Plane No. 1, new wire ropes for Plane No. 2, and for repairing Panther Creek Rail Roads and planes,	10,205 12
For Old Tunnel Rail Road repairs, - - -	414 71
For new iron for laying rail road from the shaft at Room Run to breakers, - - - - -	2,820 09

The following is a statement of the amount of coal mined and sent to market from the different mines during the past year, viz:

	Tons.	Cwt.
From the Panther Creek and Summit Mines, worked on Company's account, - - - - -	189,458	11
East Lehigh (under lease), - - - -	13,861	13
Room Run " - - - -	29,124	01
Tamaqua " - - - -	9,393	01
Total, - -	241,837	06

The following is a statement of the sums expended on the extraordinary repairs and alterations, previously mentioned, rendered necessary by the ravages of the flood of June 4th:

Lower Section.

For labor and team work, - - - - -	$370,909 07
For work done by contract, - - - - -	35,676 33
For timber and sawed lumber, - - - -	29,067 10
For iron and spikes, - - - - - -	12,094 59
For cement and lime, - - - - - -	7,199 60
For use of tools, - - - - - - -	8,619 51
For freight, - - - - - - - -	4,819 87
For gravel boats and batteaux, - - - -	2,842 38
For lands purchased, - - - - - -	3,037 50
For 8 new lock houses, - - . - -	3,988 96
For new iron bridge at Mauch Chunk, - - -	1,205 99
For miscellaneous supplies, - - - - -	9,401 93
For Superintendents' and Foremen's wages, - -	15,050 00

For engineering expenses, - - - - -	4,020 00
For incidentals, - - - - - - -	6,821 62
Total,	$514,754 45

Upper Section.

For Dam and Lock No. 1, - - - - -	$13,754 57
For Dam No. 19, - - - - - -	4,727 34
For engineering and incidental expenses, - -	5,336 72
Total,	$23,818 63

In closing my Annual Report of the operations of the eventful year which has just ended, I desire to record my acknowledgments to Daniel Bertsch, Jr., Principal Assistant Engineer; to the Division Assistant Engineers, Messrs. A. A. Douglass, A. J. Winterstein, R. A. Abbott and James Dinkey, and their assistants; to the Supervisors of the Upper and Lower Sections, and the other salaried agents of the Company, and to Messrs. John Brown, B. Riley, James McLean, Ira Cortwright, and the other gentlemen who immediately superintended the work of reconstruction, after the flood, at the various important points along the Lower Section, for the skill and energy displayed by them in their respective departments, and for their indefatigable exertions in hastening the work to an early completion.

To George Ruddle, Esq., the Company's Chief Clerk at this place, I am also indebted for the systematic arrangements made by him, in the time-keeping and pay departments, whereby the monthly payments to the men along the whole line were made with great regularity and accuracy, and with little interruption to the progress of the work.

To Messrs. William L. Patterson, Cook Talcott, and Robert L. Cooke, Assistant Engineers, I am under obligations, for their valuable assistance in making the surveys, locations, maps, estimates, &c., on the Upper Section, referred to in my Reports of July and December respectively.

The prompt response of the Board of Managers and the late President of the Company to my suggestions and recommendations in regard to the changes in the location of the canal, and the mode of reconstructing the work, with the efficient personal co-operation and aid of the late Acting Manager, in this trying emergency, aided much in effecting the speedy restoration of the works on the Lower Section of the Canal, and the early resumption of navigation.

Truly yours, &c.,

J. LEISENRING,

Sup't and Engineer.

SUPPLEMENTAL REPORT.

Office of the Lehigh Coal and Navigation Company,
Mauch Chunk, April 28th, 1863.

James S. Cox, Esq.
President Lehigh Coal and Nav. Co.

Sir,—The water was let into the Canal on the 9th ult., but the cold weather which succeeded and continued during the remainder of the month, formed so much ice in the canal as to hinder the movement of boats, and delayed the opening of navigation. Owing to this cause, and to strikes among the miners, it was not until the 6th inst., that shipments from the Company's Summit mines commenced regularly for the season. Since that time, with the exception of two days, when the loading of boats was prevented by high water in the pool, shipments have been uninterruptedly continued.

The proposed improvements and additions having been made at the East Mauch Chunk Shipping Port, shipments of coal were regularly commenced at that place in the early part of the month.

An unusual amount of rain having fallen during the winter months, the work of repairs at the Lock and Dam No. 1, Upper Section, was frequently interrupted by high water, so that several weeks will elapse, before shipments can be resumed at the Room Run Shipping Wharves; meanwhile the Room Run coal will continue to be shipped at the East Mauch Chunk Shipping Port.

Truly yours, &c.,

J. LEISENRING,

Sup't and Engineer.